Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Restoring Internet Freedom	)	WC Docket No. 17-108
	)	
	)	

To: The Commission

COMMENTS OF THE WIRELESS INFRASTRUCTURE ASSOCIATION

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July 17, 2017

EXECUTIVE SUMMARY

Demand for wireless bandwidth continues to explode. Wireless carriers and infrastructure providers have a long history of stepping up to meet the country's wireless needs through massive capital investments, and now have their sights set on the necessary investments to deploy 5G. Unlocking this next, transformative phase of the U.S. economy requires substantial and sustained investments, including in more wireless infrastructure (*i.e.*, densification) to deliver more bandwidth.

While carriers continue to invest billions of dollars in infrastructure and new innovative technologies, consumers keep getting more for less. In the face of fierce competition, the nationwide carriers have innovated to compete on data plans and diverse services. This unyielding competitive pressure combined with the massive investments they are making to meet tomorrow's wireless demands have impacted their profits. As such, while the current competition in the wireless industry is a boon to consumers and the economy, it also presents a risk to continued multi-billion dollar infrastructure investments. If the industry cannot make these investments, the U.S. economy, new job creation, and American consumers will suffer.

At the same time, large, highly profitable edge providers—a key beneficiary of the Commission's decision to impose Title II public utility-style regulation of broadband networks—completely depend on the Internet infrastructure deployments and continued investment in the U.S., including for mobile broadband. And while they have played an outsized role in the explosion in bandwidth demand over the last decade, they do not invest the billions of dollars in the Internet's infrastructure like wireless providers do. Instead, the burden to invest in the infrastructure needed to meet the United States' current and future wireless bandwidth needs has fallen to the wireless industry, and that role is what makes this proceeding so important.

It is incumbent on policymakers to ensure that the approach to broadband regulation incentivizes, rather than jeopardizes, investment. Title I regulation of broadband is an unparalleled success story. Under Title I world-leading U.S.-based edge providers have emerged and billions of dollars of investment in technology and infrastructure has enabled the wireless revolution. In contrast, Title II increases regulatory burdens and uncertainty, which, in turn, reduces the incentives to invest and innovate. The risk posed by Title II's public-utility style framework is particularly profound for the wireless industry at a time the industry is facing a collision between continued demands for immense infrastructure investment and competition-induced pressure on their bottom lines.

The Commission should revisit the Title II regulatory framework, which threatens the future of the Internet by jeopardizing the ability to make the investments needed to sustain it. A stable regulatory environment is essential to encourage the responsible deployment of wireless infrastructure. Reversing Title II is an important step in ensuring that the wireless industry can secure our promising wireless future, including through the rapid deployment of 5G.

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I. INTRODUCTION

The Wireless Infrastructure Association ("WIA")[1] respectfully submits these comments in response to the Notice of Proposed Rulemaking ("NPRM") in the above-captioned proceeding.[2] The Federal Communications Commission ("Commission" or "FCC") is appropriately focused on creating a regulatory environment that encourages the deployment of wireless infrastructure. As further described in these comments, WIA believes that the Commission can maximize investment in the broadband networks our country urgently needs while relying on intense wireless competition and reasonable rules to protect an open Internet. Title II's public-utility style regulation, however, poses serious threats to the infrastructure investments needed to meet our country's future wireless needs. In turn, Title II poses serious threats to the American economy and the promise of new job creation, as well as to providers of over-the-top services ("edge providers") who emerged and thrived under the Commission's Title I regime and who depend on continued infrastructure investments just as much as consumers do.

II. THE WIRELESS INDUSTRY IS MEETING INSATIABLE DEMAND WHILE FACING UNRELENTING COMPETITION.

A. The Wireless Industry Continues to Invest Staggering Amounts in U.S. Infrastructure to Meet Future Wireless Needs.

Demand for wireless bandwidth continues to explode, and will only accelerate with the evolution of the Internet of Things ("IoT") and the accelerated deployment of machine-to-machine ("M2M") connections. By 2021, there will be an estimated 4.4 billion networked

[1] WIA is the principal organization representing companies that build, design, own, and manage telecommunications facilities throughout the world. Its members include carriers, infrastructure providers, and professional services firms.

[2] *Restoring Internet Freedom,* Notice of Proposed Rulemaking, 32 FCC Rcd 4434 (2017) ("NPRM").

devices in the United States, up from 2.5 billion in 2016,[3] and 13.7 billion M2M connections globally, which will account for 51% of all connected devices.[4] With these new connections, mobile data traffic is expected to reach 5.6 exabytes per month in the United States alone, up from 1.3 exabytes per month in 2016, a compound annual growth rate of 34 percent.[5] Most of this traffic will be—and today already is—video from popular services like Netflix, Amazon Prime, and Google's YouTube. Indeed, video accounted for 60 percent of all mobile traffic in 2016,[6] and is expected to increase nine-fold in the next five years.[7] Increasing live video offerings by, for example, Facebook, Twitter, and Snapchat will be part of this increased traffic load, and by 2021 live mobile video is estimated to represent 5% of total mobile video traffic.[8]

Wireless carriers and infrastructure providers have a long history of stepping up to meet the country's wireless needs through massive capital investments. They have invested nearly $489 billion since the dawn of the industry,[9] including $200 billion in the past seven years and $26.4 billion last year.[10] And the industry's focus has evolved as market developments have

[3] CISCO, VISUAL NETWORKING INDEX HIGHLIGHTS TOOL, http://www.cisco.com/c/m/en_us/solutions/service-provider/vni-forecast-highlights.html# (last visited Jul. 17, 2017) ("Cisco VNI Highlights").

[4] Shruti Jain, CISCO BLOG, *Global Digitization – Connecting Homes, Health, Cities and What Not!!* (June 29, 2017), https://blogs.cisco.com/sp/global-digitization-connecting-homes-health-cities-and-what-not.

[5] *Id*.

[6] CISCO VISUAL NETWORKING INDEX: GLOBAL MOBILE DATA TRAFFIC FORECAST UPDATE, 2016–2021 WHITE PAPER (Feb. 7, 2017), http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/mobile-white-paper-c11-520862.html.

[7] Cisco VNI Highlights.

[8] CSI, *Live Mobile Video Growth* (Oct. 2, 2017), http://www.csimagazine.com/csi/Live-mobile-video-growth.php.

[9] CTIA, *Wireless Snapshot 2017*, https://www.ctia.org/docs/default-source/default-document-library/ctia-wireless-snapshot.pdf (last visited Jul. 9, 2017) ("CTIA Wireless Snapshot").

[10] *Id*.

converged to require densified networks able to keep up with demand and support new advanced wireless services. By way of example, in recognition of the need for denser networks, carriers had deployed over 300,000 live cell sites by the end of 2016, a 57% increase over the last ten years.[11]

Wireless carriers and infrastructure providers now have their sights set on the necessary investments to deploy 5G. Next generation 5G wireless networks will deliver low-latency connections at extremely high speeds, enabling IoT and M2M connectivity for richer mobile healthcare, improved online education, enhanced public safety, even smarter cities, and an app economy that is the envy of the world.[12] For example, 5G smart city solutions could ease congestion, reduce pollution, and improve the safety and well-being of communities across the country.[13] Efficiency and reliability of the nation's power delivery grid can be improved through wireless connectivity that would create $1.8 trillion in revenue to the U.S. economy and substantial consumer savings.[14]

[11] *Id*. The industry also has invested in acquiring access to spectrum. Since 1994, the wireless industry has spent more than $100 billion participating in the FCC's spectrum auctions, including nearly $65 billion in the Commission's recent AWS-3 and the 600 MHz incentive auction. *Id.*

[12] *See* Jonathan Adelstein, President and CEO, Wireless Infrastructure Association, Opening Remarks at the Wireless Infrastructure Show (May 23, 2017).

[13] *See* Kevin Ryan, *How Wireless Promotes Innovation Across Various Industries*, CTIA BLOG (Jan. 19, 2017), https://www.ctia.org/industry-data/blog-details/blog-posts/how-wireless-promotes-innovation-across-various-industries; *see also* DELOITTE, WIRELESS CONNECTIVITY FUELS INDUSTRY GROWTH AND INNOVATION IN ENERGY, HEALTH, PUBLIC SAFETY, AND TRANSPORTATION 5-12 (Jan. 19, 2017), *available at* https://www.ctia.org/docs/default-source/default-document-library/deloitte_20170119.pdf ("DELOITTE WHITE PAPER").

[14] DELOITTE WHITE PAPER at 5.

Unlocking this next, transformative phase of the U.S. economy requires substantial and sustained investments—a projected $275 billion over the next decade.[15] Consistent with its long history of investing in U.S. infrastructure, the wireless industry already has mobilized to meet the challenge. Today's unprecedented capacity demands on wireless networks can only be met through more spectrum, increased technological efficiency, and more wireless infrastructure (*i.e.*, densification). Wireless carriers have been purchasing spectrum in the secondary market, acquiring licenses to support the deployment of 5G,[16] and 5G itself offers better technological efficiency than previous generations of wireless technology.[17] But even with more spectrum and technological advancements, carriers will rely heavily on more infrastructure (*i.e.*, densification) to deliver more bandwidth.[18] Investing in more infrastructure necessarily is capital-intensive. It is, however, critical to deliver on the vast promise of 5G. Therefore, the U.S. economy, as well as U.S. economic and technological leadership around the world, depends on the wireless industry's ability to meet these considerable investment needs for our wireless future.

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[15] ACCENTURE STRATEGY, HOW 5G CAN HELP MUNICIPALITIES BECOME VIBRANT SMART CITIES 1 (Jan. 12, 2017), *available at* https://newsroom.accenture.com/content/1101/files/Accenture_5G-Municipalities-Become-Smart-Cities.pdf ("ACCENTURE SMART CITIES").

[16] *See, e.g.*, Leslie Shaffer, *Verizon Wins Bidding War to Acquire Straight Path for More Than $3 Billion*, CNBC (May 11, 2017), http://www.cnbc.com/2017/05/10/verizon-wins-bidding-war-to-acquire-straight-path-for-more-than-3-billion-report.html; *see also* Colin Gibbs, *AT&T Quietly Acquires FiberTower for 24, 39 GHz Spectrum*, FIERCE WIRELESS (Feb. 1, 2017), http://www.fiercewireless.com/wireless/at-t-quietly-acquires-fibertower-for-24-39-ghz-spectrum.

[17] *See* Amy Nordum, *5G Researchers Set New World Record For Spectrum Efficiency*, IEEE SPECTRUM (May 12, 2016), http://spectrum.ieee.org/tech-talk/telecom/wireless/5g-researchers-achieve-new-spectrum-efficiency-record.

[18] Spectrum re-use enabled by network densification has increased wireless capacity by a factor of 1600 over the past forty-five years—more than 64 times greater than either new spectrum availability or the deployment of new modulation technologies. *Spectrum (Part 1): Meeting the Capacity Challenge* at 6 (MoffettNathanson Research, Mar. 22, 2017).

B. Ruthless Competition in the Wireless Industry Is Offering Tremendous Benefits to Consumers, But Creates Investment Challenges

While carriers continue to invest billions of dollars in infrastructure and new, innovative technologies, consumers keep getting more for less. In the face of fierce competition, the nationwide carriers have innovated to compete on data plans and diverse services. All four nationwide providers now offer unlimited data plans for the first time since the rapid rise in mobile video consumption.[19] They also have experimented with other incentives to acquire new subscribers, such as free smartphones, one year of free service, free lines, and video and music streaming at no additional charge.[20] In addition, they have competed viciously on price: the cost of wireless service declined 12.9% over the past 12 months, resulting in the biggest drop the U.S. Labor Department has recorded in the past 16 years and contributing to an overall decline in the consumer-price index in March.[21] Unlimited plans that ranged from $110 to $120 per month six years ago now range from $50 to $80 per month,[22] while providing faster speeds to consumers

[19] *U.S. Wireless Price Wars Having A Big Impact on Consumers*, FORBES (Jun. 27, 2017), https://www.forbes.com/sites/greatspeculations/2017/06/27/u-s-wireless-price-wars-having-a-big-impact-on-consumers/; *see also* Ben Leubsdorf, *How Cell-Phone Plans With Unlimited Data Limited Inflation*, WALL STREET JOURNAL (May 19, 2017), https://blogs.wsj.com/economics/2017/05/19/how-cell-phone-plans-with-unlimited-data-limited-inflation/.

[20] *U.S. Wireless Price Wars Having A Big Impact on Consumers*, FORBES (Jun. 27, 2017), https://www.forbes.com/sites/greatspeculations/2017/06/27/u-s-wireless-price-wars-having-a-big-impact-on-consumers/; *see also* Ben Leubsdorf, *How Cell-Phone Plans With Unlimited Data Limited Inflation*, WALL STREET JOURNAL (May 19, 2017), https://blogs.wsj.com/economics/2017/05/19/how-cell-phone-plans-with-unlimited-data-limited-inflation/.

[21] Mike Dano, *Cost of Wireless Service Falls 13%, Biggest Decline in 16 Years: Labor Dept.*, FIERCE WIRELESS (May 22, 2017), http://www.fiercewireless.com/wireless/cost-wireless-service-falls-13-biggest-decline-16-years-labor-dept.

[22] Ryan Knutson, *Era of Costly Cell Service Is Ending*, WALL STREET JOURNAL (Jun. 23, 2017), https://www.wsj.com/articles/the-new-sticker-shock-plunging-cellphone-bills-1498232910.

thanks to pervasive 4G deployment. As one analyst called it, "the past year has been the most aggressive time in wireless history."[23]

This unyielding competitive pressure combined with the massive investments carriers are making to meet tomorrow's wireless demands have impacted their profits.[24] Some of the carriers have seen declines of as much as 8% in average revenue per postpaid subscriber since last year, and at least one expects a continued decline before leveling off.[25] As such, while the current competition in the wireless industry is a boon to consumers and the economy, it also presents a risk to continued multi-billion dollar infrastructure investments. If carriers cannot make these investments, the U.S. economy, new job creation, and American consumers will suffer.

C. Companies that Rely on—But Do Not Invest in—Next Generation Wireless Infrastructure Meanwhile Are Thriving.

At the same time, large edge providers—a key beneficiary of the Commission's decision to impose Title II public utility-style regulation of broadband networks[26]—are highly profitable. Instead of facing price wars like that in the wireless industry, they continue to generate extraordinary revenue, including through increased prices to consumers and for advertising.[27]

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[23] *Id.*

[24] Malathi Nayak and Anya George Tharakan, *Verizon Posts Higher Revenue; Wireless Margins Narrow*, REUTERS (Jan. 22, 2015), http://www.reuters.com/article/us-verizon-comms-results-idUSKBN0KV19D20150122.

[25] Adam Levy, *The Cost of Wireless Service Is Plummeting as Price War Rages On*, THE MOTLEY FOOL (Jun. 11, 2017), https://www.fool.com/investing/2017/06/11/the-cost-of-wireless-service-is-plummeting-as-pric.aspx.

[26] Of course, these companies launched and had tremendous success long before Title II. *See* NPRM ¶ 2 (Under a light-touch regulatory approach, "[b]usinesses developed in ways that the policy makers could not have fathomed even a decade ago. Google, Facebook, Netflix, and countless other online businesses launched in this country and became worldwide success stories.").

[27] Chris Welch, *Netflix's Longtime Customers Will Start Paying $9.99 per Month in May*, THE VERGE (Apr. 11, 2016), https://www.theverge.com/2016/4/11/11410590/netflix-price-increase-hits-longtime-customers-may; George Slefo, *Google's Mobile Search Revenue Grows, and Suggests Higher Mobile Ad Rates Ahead*, ADVERTISING AGE (Jan. 26, 2017), http://adage.com/article/digital/google-parent-alphabet-

Still, these companies, and their profitability, completely depend on Internet infrastructure deployments and continued investment in the U.S., including for mobile broadband. And while they have played an outsized role in the explosion in bandwidth demand over the last decade,[28] they do not invest the billions of dollars in the Internet's infrastructure like wireless providers do.[29] The targeted infrastructure investments these players have made domestically cannot meet America's skyrocketing wireless bandwidth needs. For example, one edge provider now offers wireless service that rides on existing infrastructure, including Sprint's and T-Mobile's wireless networks,[30] adding price competition but not partaking in the expensive buildout for the wireless needs of tomorrow.

Where leading edge providers have considered substantial infrastructure investments is overseas,[31] largely in efforts to get unconnected consumers to connect to their services. For

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mobile-search-driving-revenue/307720/; Alexandra Bruell, *U.S. Digital Ad Market to Grow 16% This Year, Led by Facebook and Google*, WALL STREET JOURNAL (Mar. 14, 2017), https://www.wsj.com/articles/u-s-digital-ad-market-to-grow-16-this-year-led-by-facebook-and-google-1489489202.

[28] *See, e.g.*, Todd Spangler, *Netflix Remains King of Bandwidth Usage, While YouTube Declines*, VARIETY (May 14, 2014), http://variety.com/2014/digital/news/netflix-youtube-bandwidth-usage-1201179643/ (Netflix "accounted for 34.2% of all downstream usage during primetime hours").

[29] In fact, they do not even invest as much in the United States as the telecommunications industry. Every year, telecommunications companies top the Progressive Policy Institute's list of U.S. investment heroes. In 2015, AT&T and Verizon collectively invested $5 billion more than the entire internet and technology sector. MICHELLE DI IONNO AND MICHAEL MANDEL, PROGRESSIVE POLICY INSTITUTE, INVESTMENT HEROES 2016: FIGHTING SHORT-TERMISM, at 5-6 (Oct. 2016), *available at* http://www.progressivepolicy.org/wp-content/uploads/2016/10/InvestHeroes_2016.pdf.

[30] Leo Kelion, *Google Launches Project Fi Mobile Phone Network*, BBC (Apr. 22, 2015), http://www.bbc.com/news/technology-32422193 ("The firm will rent voice and data capacity from two existing operators - Sprint and T-Mobile - and use existing Wi-Fi hotspots, rather than build new infrastructure from scratch.").

[31] *See, e.g.*, Joon Ian Wong, *Google and Facebook Are Doubling Down on Internet Infrastructure with a New Pacific Cable*, QUARTZ (Oct. 17, 2016), https://qz.com/811032/google-goog-and-facebook-fb-are-building-a-new-transpacific-submarine-cable/ (noting Google and Facebook participation in consortium to build estimated $400 million transpacific submarine cable system to Hong Kong).

example, one edge provider's overseas infrastructure program intends to provide low-cost Internet connectivity to unserved communities like India and Zambia, replete with free access to the company's services (*i.e.*, a zero-rated program).[32] As one writer described, "building out infrastructure in regions that are currently lacking good connectivity is essential . . . to continue to grow in these regions."[33]

Put simply, these companies—while extremely profitable and benefiting substantially from domestic wireless infrastructure investments as evidenced by their interest in investing in infrastructure overseas—are not investing in the infrastructure needed to meet the United States' current and future wireless bandwidth needs. Instead, consistent with its long history of investment, the wireless industry is taking on the burden, and it's critical to the U.S. economy for the industry to do so. That role is what makes this proceeding so important.

III. THE COMMISSION MUST REVERSE COURSE TO FACILITATE U.S. CARRIERS' ABILITY TO CONTINUE TO INVEST AND LEAD THE WORLD.

U.S. competitiveness, the transformative opportunities of the IoT and 5G in terms of job and economic growth, and even the sustained success of U.S.-based edge providers all depend on wireless carriers' ability to make the investments necessary to deploy next generation networks. The wireless industry has a long history of incredible investments and already is investing billions of dollars towards deploying 5G. But policymakers should not take for granted that these investments will automatically continue, particularly at a time when profits in the cutthroat wireless industry may be declining. Therefore, it is incumbent on the Commission and other U.S.

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[32] Rahul Bhatia, *The Inside Story of Facebook's Biggest Setback*, THE GUARDIAN (May 12, 2016), https://www.theguardian.com/technology/2016/may/12/facebook-free-basics-india-zuckerberg..

[33] Ingrid Lunden, *Facebook Launches Telco Infrastructure Accelerator with Orange*, TECHCRUNCH (Apr. 24, 2017), https://techcrunch.com/2017/04/24/facebook-launches-telco-infrastructure-accelerator-with-orange/.

policymakers to ensure that the approach to broadband regulation incentivizes, rather than jeopardizes, investment. As the NPRM acknowledges, that approach is not Title II, which has "put at risk online investment and innovation, threatening the very open Internet it purported to preserve."[34]

Title I regulation of broadband is an unparalleled success story. The Internet has flourished under Title I for almost twenty years, with $1.5 trillion of investments in the Internet ecosystem[35] and the emergence of U.S-based but world-leading edge providers. The success story for wireless is as, or even more, optimistic. Under the Title I framework, the wireless industry invested billions of dollars in technology and infrastructure that has enabled the wireless revolution. These investments under the Title I framework first enabled consumers to watch a streaming video from their mobile device and evolved to allow consumers to subsequently watch live video in the same manner. Put simply, under Title I, wireline and wireless providers alike confidently invested to unleash the economy-changing Internet we have today.

In contrast, Title II increases regulatory burdens and uncertainty, which, in turn, reduces the incentives to invest and innovate.[36] The risk posed by Title II's public-utility style framework is particularly profound for the wireless industry. As described above, the industry is facing a collision between continued demands for immense infrastructure investment and competition-

[34] NPRM ¶ 4.

[35] *Id.* ¶ 2.

[36] *See id*. ¶¶ 44, 48. Indeed, as the NPRM observes, capital expenditures by Internet service providers have declined in the last several years—*i.e.*, when the FCC first threatened classifying broadband as a Title II service and the years since it followed through on that threat. *See id.* ¶ 45; *see also, e.g.,* Anna-Maria Kovacs, *Has Title II Regulation Stifled Wireless Investment? Here's What the Number[s] Say*, WIRELESS WEEK (June 15, 2017), https://www.wirelessweek.com/article/2017/06/has-title-ii-regulation-stifled-wireless-investment-heres-what-number-say (noting radical fall in wireless capital investment from 2014 to 2016, the years in which the FCC first considered and then implemented Title II).

induced pressure on their bottom lines. Piling on the uncertainty and burdens presented by Title II poses a real threat to the wireless industry's ability to expend billions of dollars of infrastructure investment. Title II intervention also is wholly unnecessary for the wireless industry: It defies logic that rivals in the intensely competitive wireless marketplace would undertake any actions that would offend consumers, such as jeopardize the open Internet they have long supported and preserved even in the absence of a regulatory mandate. Instead, Title II simply inhibits their ability to compete in innovative new ways, including price, and otherwise justify multi-billion dollar investments.[37]

Rather than maintain the public-utility style regulatory intervention of Title II, the Commission should return to its bipartisan Title I course to ensure that network providers have the flexibility and certainty to continue to invest at the high levels needed for future wireless demands. Not only will Title I promote the investment needed to meet growing wireless demands, but that investment in infrastructure will better ensure the creation of millions of new jobs associated with the deployment of new wireless technologies.[38] Specifically, as proposed, the Commission should reinstate the interstate information service classification of broadband Internet access service.[39] The Commission also should return to the classification of mobile

[37] The Commission was previously concerned about various zero-rating business models. *See, e.g.*, Letter from Jon Wilkins, FCC, to Robert W. Quinn, Jr., AT&T (Dec. 1, 2016), *available at* https://cdn.arstechnica.net/wp-content/uploads/2016/12/Letter-to-R.-Quinn-12.1.16.pdf. However, all four of the major wireless carriers introduced unlimited data plans and promotions in early 2017. *See, e.g.*, Patrick Holland, *Unlimited Data Plans: Verizon, T-Mobile, AT&T and Sprint, Compared*, CNET (Apr. 28, 2017), https://www.cnet.com/news/how-does-verizon-unlimited-plan-stack-up-against-the-others/. The speed with which the market moved to unlimited shows how futile it is for the FCC to judge these business models—and how unnecessary given the intense competition in the market.

[38] *See* ACCENTURE SMART CITIES at 1.

[39] *See* NPRM ¶ 25. Classifying broadband as an *interstate* information service is critical to avoid a patchwork of state and local requirements that also can reduce carriers' incentives to invest and hamper their ability to make large scale deployments. *See id.* ¶ 69; *see also id.* (Statement of Commissioner Michael O'Rielly) ("If the Commission decides that it is an interstate information service, then states and

broadband to a private mobile service,[40] the classification under which the wireless broadband marketplace developed and has long flourished.[41] These actions are important steps to remove the cloud of uncertainty for continued infrastructure investment created by Title II.

Notably, reversing Title II does not mean abandoning an open Internet. As the NPRM observes in its first sentence, "Americans cherish a free and open Internet."[42] The industry understands the value of an open Internet, and has long supported and ensured it. The greatest threat to the future of the Internet is not malevolent industry activities, but rather a restrictive and uncertain regulatory environment, such as that posed by Title II, which threatens the ability to make needed investments to maintain global leadership. To best and permanently preserve the open Internet, Congress should take bipartisan action to codify general open Internet principles to which there is general agreement. Any new open Internet requirements should be flexible and clear enough to allow broadband providers to innovate and thrive. For example, any open Internet obligations must not threaten the viability of certain expected 5G applications, such as smart communities and mobile health services, which may have unique bandwidth and latency needs beyond what is needed for everyday consumer applications.[43] They should also allow wireless providers to compete by offering new, disruptive service offerings, such as pro-

localities should be foreclosed from regulating it, as some states are currently attempting to do with new broadband privacy laws, fees, approval processes, and other requirements.").

[40] *See* NPRM ¶ 55.

[41] *See id*. ¶ 62 (noting the "apparent historical success of the wireless marketplace" prior to Title II).

[42] *Id*. ¶ 1.

[43] *See id.* ¶ 94 (seeking comment on non-broadband Internet access service data services that fall outside the scope of rules, previously known as "specialized services"). The FCC's *Title II Order* excluded from the open Internet obligations "non-BIAS data services," but nevertheless suggested that such services "may still be subject to enforcement action," infusing unnecessary uncertainty and risk to the deployment and provision of such services. *Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd 5601 ¶¶ 207, 210 (2015).

consumer programs that provide popular free-data services. And they should avoid vague requirements, such as the "Internet conduct standard," which can chill any new pro-consumer and pro-competitive offerings. Appropriate and flexible open Internet legislation would establish long-term regulatory certainty and encourage wireless industry investment.

IV. CONCLUSION

The Commission should revisit the Title II regulatory framework, which threatens the future of the Internet by threatening the ability to make the investments needed to sustain it. A stable regulatory environment is essential to encourage the responsible deployment of wireless infrastructure. Reversing Title II is an important step in ensuring that the wireless industry can secure our promising wireless future, including through the rapid deployment of 5G.

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July 17, 2017